



TO WHAT EXTENT HAS THE ADOPTION OF BITCOIN AS LEGAL TENDER IN EL SALVADOR INFLUENCED FINANCIAL INCLUSION AMONG ITS CITIZENS?

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ABSTRACT

This research paper explores the implications of adopting Bitcoin as legal tender in El Salvador on financial inclusion for El Salvador's national stakeholders. El Salvador's decision to officially accept Bitcoin as legal tender in September 2021 has raised intriguing perspectives on the financial inclusiveness and reliability of this cryptocurrency for its citizens and government. The study highlights the potential benefits of enhancing financial inclusion by providing an alternative means of accessing financial services for the unbanked and underbanked populations. However, it also addresses concerns about the environmental impact of Bitcoin mining. President Nayib Bukele's strategies, including using geothermal energy for Bitcoin mining and offering tech tax incentives, are pivotal to this adoption. The research provides a comprehensive view of the potential benefits and hurdles of El Salvador's Bitcoin integration, offering insights for other countries considering similar financial shifts.

KEYWORDS: Bitcoin, El Salvador, Adoption, Financial Inclusion, Stability, Economic Impact

INTRODUCTION

On September 7th, 2021, El Salvador became the first country to officially adopt Bitcoin as its main legal tender. Although Bitcoin is still new, all economic agents (businesses) were initially required to accept it. However, the government later made this requirement optional, and the US dollar continues to be the official currency of El Salvador as it has been since 2001 (Huang, 2021). The president's order for a national currency change has led to some interesting discussions about how Bitcoin's acceptance will affect both the government and Bitcoin users in El Salvador in terms of its financial accessibility and dependability (Huang, 2021). Bitcoin's decentralized nature and inventive monetary design structure offer a new alternative to central banking systems without government intervention (Ammous, 2018). Financial inclusion, in the context of this research question, specifically refers to the extent to which individual El Salvadorian Bitcoin investors, including the unbanked or underbanked, can employ Bitcoin as a daily financial service to participate in their economy, such as small business transactions and the payment of taxes.

While the global market has witnessed Bitcoin's value plummet from a staggering \$69,000 to a mere \$26,000—a decline of approximately 62%—the currencies of other destabilized third-world Latin American countries have depreciated even more drastically since October 2021. To put this into perspective, if an individual in Argentina or Brazil had opted to convert their local currency into Bitcoin when it was valued at \$69,000, their financial position would be more favorable today. This is since, despite being significant, Bitcoin's depreciation was still less severe than the devaluation of their local currencies. Consequently, an investment in Bitcoin would have served as a more resilient store of value compared to retaining savings in the local currency. Despite its potential as a hedge against

inflation and its increasing acceptance, Bitcoin has not matured to a point where it can seamlessly function as a conventional currency; rather, it is in the stage of being a future savings mechanism. Despite limited adoption in El Salvador and its current role as a savings mechanism, Bitcoin's relative stability compared to other Latin American currencies suggests its potential to enhance financial inclusion, which justifies further study.

The adoption of Bitcoin is interesting to investigate given that only 64 percent of the El Salvadorian population has access to internet services, which is necessary in this context because the purpose of a monetary digital currency is to be readily available for all its users to commit transactions (Huang, 2021). The rate of internet access as of October 2022 is significant because over 90% of the population of the United States has access, but the United States has not made major economic moves in the adoption of Bitcoin (Petrosyan, 2022). However, the internet accessibility rate of El Salvador compared to first-world countries such as the United States is not a concerning factor in Bitcoin's adoption. The United States' lack of economic moves is due to the United States' economic participants residing in a nation that governs the issuance of the world's primary reserve currency, which provides Americans with unique insulation from the imperative of exploring fiat alternatives such as Bitcoin. This is not the case for other Latin third-world countries, such as Venezuela, with its 62% internet access rate seeking to find alternatives after suffering hyperinflation and destabilization of its currency but ranking third in its adoption of Bitcoin as of 2022 (Goschenko, 2022).

Consequently, one could contend that the slow adoption of Bitcoin within the United States is predominantly attributed to the populace's lack of discernment of a compelling utility for

the cryptocurrency. Moreover, the advantageous position of the US government, which possesses the capacity to perpetually mint currency and transfer the inflationary repercussions externally, further diminishes its incentive to adopt Bitcoin. The solution that Bitcoin is bringing is that it offers alternative ways for El Salvadorians to participate in transactions as an alternative means of accessing financial services due to 70% of El Salvadorians not having a bank account and 90% not using mobile banking (Cattel, 2022).

The significance of this research topic is that it pursues an understanding of the aftermath of a major shift in monetary policy in a small, central American country and the potential implications for financial systems and the population. The fact that El Salvador, a developing country, took the risk was due to Bitcoin being a more stable and decentralized currency compared to preceding currencies that were being printed at a much higher rate due to corruption. The recent adoption of Bitcoin in El Salvador offers the chance for a unique analysis regarding its influence and financial stability after a twenty-year dollarization period and limited economic diversification by its narrow range of economic activity (making it more vulnerable to economic shocks) through the adoption of a harder median of exchange (Alvarez et al., 2022). The research outcome could provide insight into the feasibility and sustainability of cryptocurrencies as a means of exchange and offer a blueprint for other third-world countries considering similar moves. This is specifically important for other dollarized economies in understanding how their economies might respond to a similar shift, whether it is a complement or substitute for traditional forms of legal tender.

According to a tweet by the president of El Salvador, Nayib Bukele (@nayibbukele), "We are buying one bitcoin every day starting tomorrow" (Bukele, 2022). It is hard to assess the reliability of El Salvador's Central Bank and President Bukele's political party in general as they do not publicly declare the amount of bitcoin that is in circulation and the price it is being bought at. This implies that there is a lack of transparency and accountability in the management of Bitcoin. It also makes it hard to assess the economic situation of El Salvador and analyze how successful Bitcoin is on a national scale due to the undeclared government information. This ultimately leads to a more corrupt image for Bukele's party and questions the development of El Salvador with the adoption of Bitcoin. The public can solely depend on keeping up with and trusting the president's Bitcoin-based, national-scale ambitions through his tweets and speeches.

The scope of this research is to examine the effects on El Salvador's government and its national stakeholders/El Salvadorian citizens who are Bitcoin users of El Salvador's decision to legitimize Bitcoin as a legal tender. The focus of the research will be understanding the facilitated availability and utilization of financial services that will ultimately affect financial stability and the government's performance regarding regulation. This study will ultimately answer if Bitcoin is a reliable currency for potentially other nations to use and how it may affect the economic, political, and social power dynamics

within a nation. The limiting factors the study may face include the absence of detailed information on the use of Bitcoin from government sources due to the Central Bank not publicly declaring any data. This will be overcome by studying academic papers, industry reports, and articles. Another factor is the fast pace of updated information on Bitcoin, which makes it difficult to write an up-to-date paper that provides a clear picture of the situation. The research will be composed of secondary sources and a couple of primary sources, such as available government reports or official tweets from President Nayib.

MATERIALS AND METHODS

The study utilizes only secondary academic sources to gather data and insights. However, secondary, unacademic, but reliable sources are used to inform and supplement the findings and the analysis.

Academic Sources:

- Academic Papers: Relevant academic literature on cryptocurrencies, financial inclusion, monetary policies, and the adoption of Bitcoin in other countries is reviewed to establish the theoretical framework and context for the study.
- Industry Reports: Reports from reputable organizations, financial institutions, and cryptocurrency exchanges are examined to understand trends, market behavior, and potential implications of Bitcoin adoption.
- Articles: News articles, opinion pieces, and analysis from reliable news outlets provide current and historical information on El Salvador's decision to accept Bitcoin and its implications.

Non-academic Sources:

- Official Tweets and Speeches: Statements and tweets made by President Nayib Bukele and other government officials regarding the adoption of Bitcoin are analyzed to understand the rationale and motivations behind the decision.
- Government Reports: Available reports and official documents from the El Salvadorian government, such as those from the Central Bank and regulatory bodies, are examined to gather data on the implementation of Bitcoin as legal tender.
- Interviews (if applicable): Interviews with key stakeholders, experts in cryptocurrency, and policymakers are cited to gain deeper insights into the decision-making process and the perceived impact of Bitcoin adoption.

The data is analyzed using descriptive and qualitative methods. It involved content analysis of texts, interviews, and official statements to identify themes, patterns, and key arguments related to financial inclusion and stability.

The Economic, Social, and Political Implications of El Salvador's Adoption of Bitcoin as a Legal Tender

The adoption in 2021 was done through a number of legal steps. It first began when the nation's president, Nayib Bukele, decided on the plan, and the parliamentary assembly, where his

party has a supermajority, ratified it. The action was aimed at enhancing financial inclusion and lowering remittance expenses (Levine, 2023). A \$150 million fund was also put in place by the government through its Bandesal Development Bank to enable the immediate conversion of Bitcoin into U.S. dollars and support businesses in integrating cryptocurrency payment systems (Jenkinson, 2021). The El Salvadorian government's development of a digital custodial wallet (the user does not have access to their Bitcoin keys) named "Chivo", which allows Salvadorans to receive and send money, make purchases, and pay bills using Bitcoin or US dollars, is one particular action taken to promote financial inclusion. To promote the use of cryptocurrencies as a measure of financial inclusion, El Salvador purchased an additional 400 bitcoins, which were worth about \$20 million at the time (Al Jazeera, 2021). The government also gave thirty dollars' worth of bitcoin to every person who signed up for the wallet, and users received gas discounts between \$0.20 and \$0.30 (nearly 8%) through transacting with Chivo (Hypebeast, 2021).

The decision to make Bitcoin legal tender in El Salvador was contentious, with critics raising concerns about the potential for increased money laundering and volatility in the cryptocurrency market. Additionally, the implementation of the law has faced technical issues and public protests, leading to delays and confusion. The protests were due to a bumpy initial rollout of the new banking system that resulted in 20% of El Salvadorians not downloading it due to trust issues with the system and comfortable reliance on cash. The protesters wore t-shirts that said "NO to Bitcoin" while lighting fireworks and burning tires at the Supreme Court Building in the nation's capital, San Salvador. However, a *Bitcoiner* stated that there was a lot of question about whether those anti-Bitcoin protests were actually staged by Bukele's opponents and not reflective of true grass-roots organic opposition to the concept. They recall when the protests happened seeing a lot of evidence for this online, though it might have been better covered by the Spanish language press and consequently disregarded by the mainstream dominant English media, which already has an anti-Bitcoin bias. It was reported that El Salvador's government responded with heavily armed forces. The El Salvadorians aimed to send a message to Bukele that they did not believe it was an ideal currency for small businesses but rather that it was designed for only big investors (Aleman, 2021).

A research survey three economics professors conducted face-to-face with over 1,800 El Salvadorian households found that less than 60–75% of the households with cell phones downloaded the Chivo app; 40% of the downloads occurred at its launch in September 2021; and only 20% of the households that did download Chivo continued to use it after the government's \$30 incentive. It also revealed that the incentive was the main reason that 75% of the downloaders installed the app. While the study did find that a good number of people did download the app, it ultimately concluded that a small percentage of users used the app beyond the \$30 for transactions. Despite the large promotion of it, there was a lack of financial literacy in how to use this app efficiently for long-term personal and business use in its small acceptance with businesses and little improvement

in the decreased price of goods (Alvarez et al., 2022).

Diagram statistics from Alvarez's study:

Figure 1 – Adoption and use of Chivo Wallet

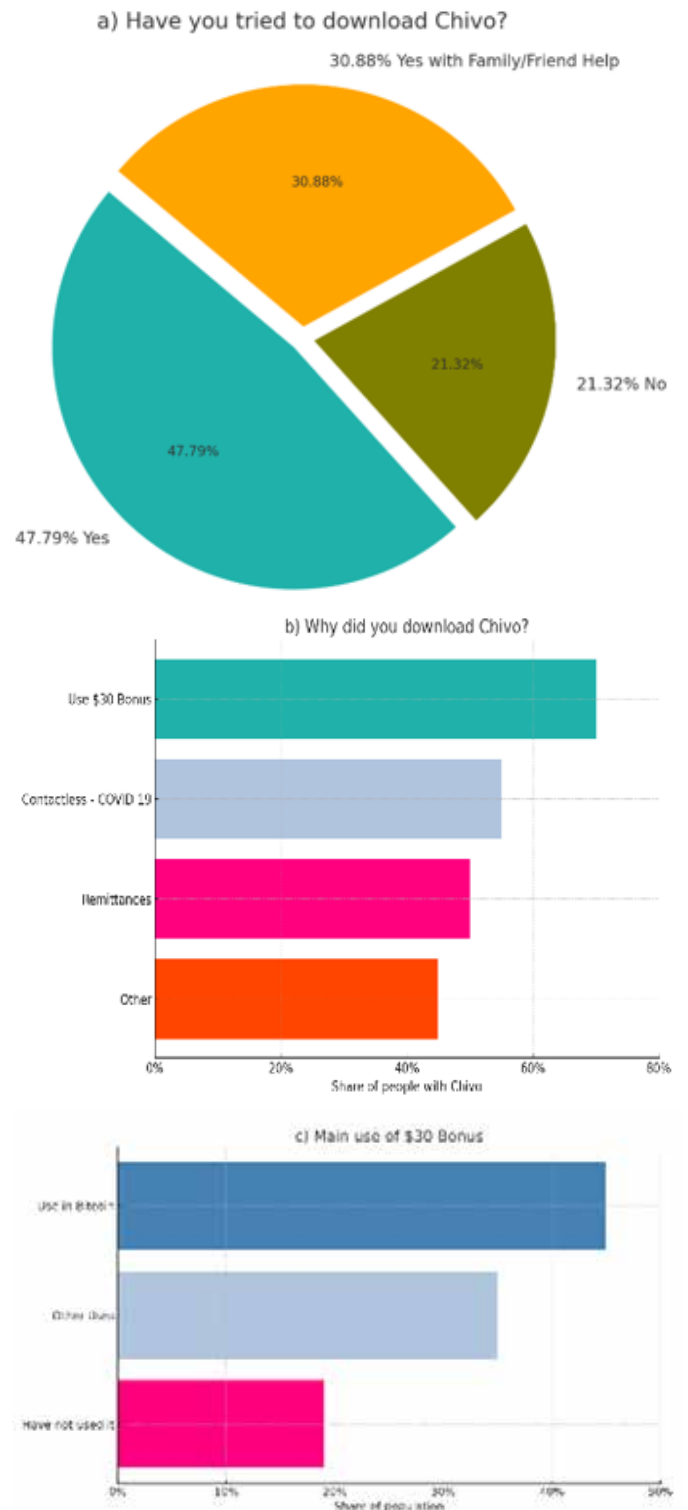
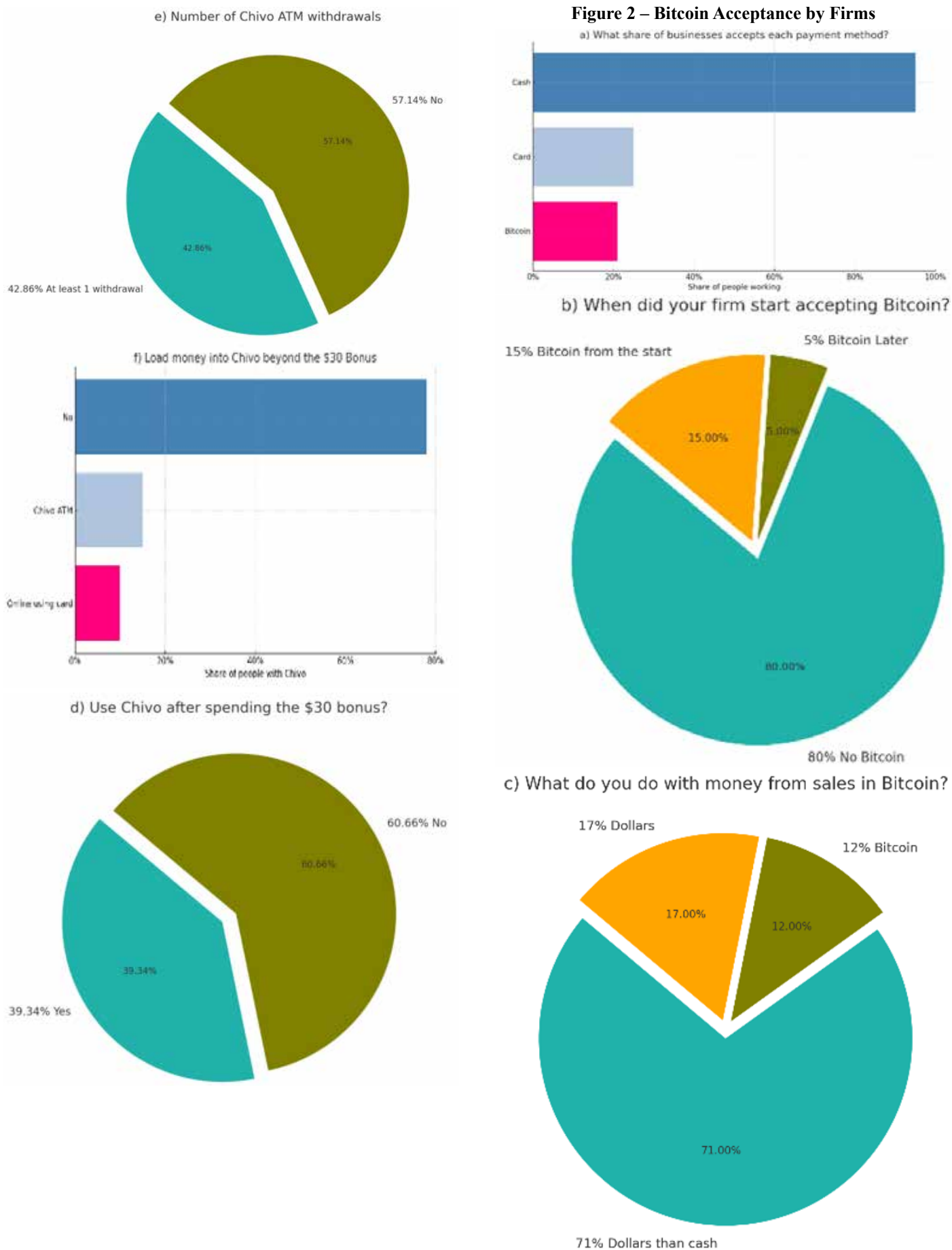
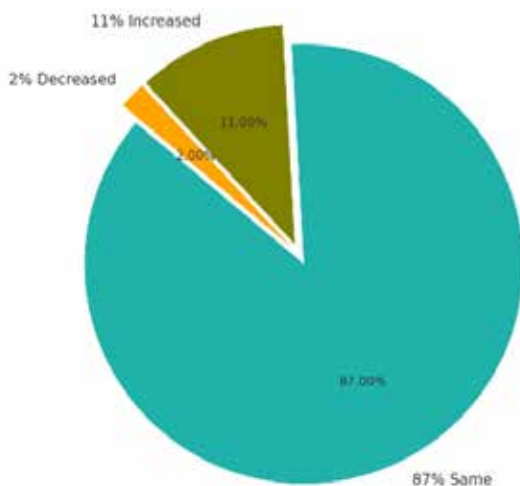


Figure 2 – Bitcoin Acceptance by Firms

d) What has happened to prices at your firm since Chivo's Launch?



According to the Congressional Research Service report on the U.S. Role in the World, El Salvador faced many economic and political crises before its adoption. The nation faced slow economic growth, excessive poverty levels, and social stratification between the weak and the powerful. During the pandemic, the economy declined by 7.9%, and 20% of jobs were lost.

Approximately 18% of El Salvador's GDP was made up of remittances, and throughout the pandemic, it reached nearly 25%. El Salvador's discontinued currency, the Salvadorian colón, experienced high inflation, resulting in its devaluation. This made it tough for the government to regulate monetary and fiscal policy (Congressional Research Service, 2022).

While national studies on the adoption of the Chivo app in El Salvador might present a negative response for the nation, it is essential to delve deeper into specific regional responses to adoption. A region that stands out is El Zonte, more famously known as "Bitcoin Beach." Due largely to its thriving tourist industry, this surfing beach town has become a hub for Bitcoin adoption. These tourists are mostly Bitcoin supporters themselves and come for the tropical waves and the luxury of transacting their preferred digital currency. Merchants caught on to this digital trend in El Zonte and integrated Bitcoin payments into their businesses powered by the Lightning Network. This Lightning Network is a second layer on the Bitcoin network, which is quicker than most credit cards and has extremely low fees for microtransactions. The government has earmarked over \$203 million for infrastructure developments in the region, including facility enhancements for tourists and road improvements. Bukele's includes a rising 15,000-square-meter area featuring a shopping center, beach club, and treatment plant, all aimed at revitalizing the region's economy (Goschenko, 2022).

El Salvador's Political System and Its Implications on Financial Decision-Making

The BTI report (2022) states that El Salvador's political system is known as the presidential representative democratic republic. This type of political system sets the president as both the head of state and the head of government and gives the president

the power to make decisions relatively easily and quickly. The nation also has a National Assembly that is made up of 84 members. Its role is to review and ratify laws for the national budget (BTI Project, 2022). A vote was made for the adoption of Bitcoin, and 62/84 members supported the new Bitcoin Law (Jenkinson, 2021).

El Salvador's government has the jurisdiction to make choices about taxes, debt, public outlays, and public fund disbursement. The president, in collaboration with the National Assembly, drafts and approves the national budget. El Salvador's political system is the main driver behind how money is handled and comes into circulation, and it is also the main reason behind its economic situation. It could be difficult for the government to put effective solutions to economic challenges into action given the weak institutional foundation and political divisions of the nation (BTI Project, 2022). Through the adoption of Bitcoin, the government of El Salvador has taken steps to improve transparency and accountability in financial decision-making. This is due to Bitcoin being a fully decentralized currency based upon proof of work rather than trust, and it was important for the government to take certain measures to make financial aspects clear while making this shift from fiat to cryptocurrency.

El Salvador has demonstrated its efforts toward increasing transparency by unveiling new reforms, such as the Law on Access to Public Information, in July 2021. This law requires public officials to disclose information related to their activities and decisions. However, the law could potentially limit the scope of information available to the public if, for example, the government classifies Bitcoin purchases as "informal information" and they are withheld. The law is transparent because it gives the public access to information that was previously impossible to even consider asking for. Corruption in the nation is still an ongoing issue, and a relatively new law is not going to easily change the state of corruption that has been ongoing for decades. The government has taken a major step in enforcing its law and did this by collaborating with the Institute of Access to Public Information, created in 2013. They also created a website that its citizens can use to request and track their requests to access information, such as the public expenses and salaries of public officials (CIVICUS Monitor, 2021).

President Bukele's Promotion of Bitcoin Mining in El Salvador: Implications for Energy Consumption, Environmental Sustainability, and Economic Growth

President Bukele's promotion of Bitcoin mining in El Salvador has significant effects on energy consumption. Bitcoin mining is often misunderstood as a complex computational endeavor. In truth, it is like a vast lottery system, where miners engage in a continuous guessing game to identify a specific hash value that aligns with the network's criteria. The multitude of machines in mining is not for intricate computations but to expedite these hash guesses. The significant energy consumption in Bitcoin mining is not wasteful but foundational. It is a deliberate investment to produce a currency free from human control. By design, Bitcoin's energy-intensive process ensures its value and incorruptibility, transforming the expended energy into a

decentralized currency resistant to human manipulation (Braains, 2021). As a result, the increased energy consumption associated with Bitcoin mining could exacerbate the already pressing stability concerns around sustainability and environmental impact. It is crucial to consider the long-term consequences of this decision and explore ways to effectively manage and mitigate the potential strain on the energy infrastructure to maintain stability in the nation (Schmidt, 2022).

Additionally, President Bukele's push for Bitcoin mining in El Salvador has economic opportunities for the country. Proponents argue that embracing Bitcoin and its associated mining operations can stimulate economic growth by attracting investments and creating job opportunities in the cryptocurrency industry, such as blockchain developers and data analysts (Linares, 2021). However, it is essential to carefully assess the potential risks and uncertainties. Balancing the economic advantages with the need for sustainability and ensuring proper regulations and oversight will be crucial in evaluating the potential benefits while safeguarding the country's economic stability and environmental well-being.

Bitcoin Mining and its Energy Intensity

Bitcoin mining is a process that involves guessing solutions known as hashes to complex mathematical problems to reward miners who spend resources to secure the network, validate transactions, and add them to the blockchain. Bitcoin's proof of work (POW) algorithm requires miners to compete against each other to solve computational puzzles. However, the energy-intensive nature of cryptocurrency mining poses significant environmental concerns, which Bukele's administration aims to address through energy-efficient initiatives (Arora, 2023).

The energy required for cryptocurrency mining has become a cause for concern due to its carbon footprint and strain on energy grids. A report by Bank of America analysts reveals that the global Bitcoin industry's overall CO₂ emissions have reached a staggering 60 million tons, equivalent to the exhaust emissions of approximately 9 million cars (Reuters, 2021). As the difficulty of mining problems increases due to the increasing competition of participating miners and computing power, so does the energy consumption, worsening the environmental impact.

However, Bukele provides an innovative approach to Bitcoin mining carbon footprint concerns by using volcanic energy. While the immediate thought might be the renewable nature of this energy source, the true significance lies in the concept of "stranded energy." Volcanic regions, often remote and uninhabited, possess vast amounts of untapped energy. Harnessing this energy for conventional electricity generation presents logistical challenges. Transmitting this power to populated areas would necessitate extensive infrastructure, incur significant costs, and result in substantial energy loss during transit. Mining offers a means to monetize this stranded energy, converting what would otherwise be wasted power into a valuable digital asset.

The revolutionary aspect of Bitcoin mining extends beyond just

volcanic energy. Consider the flared gas from oil wells, which is currently burned off due to its lack of utility. By employing this gas for Bitcoin mining, what was once a wasted byproduct becomes a source of revenue. Similarly, in regions of China, Bitcoin miners capitalized on the hydroelectric potential of remote waterfalls situated in high-altitude, sparsely populated areas. These instances underscore the unique capability of Bitcoin mining: its ability to transform diverse, often isolated energy sources into a universally recognized form of value. In essence, Bitcoin mining serves as a bridge, turning otherwise inaccessible energy into a fungible and transportable economic asset.

Bukele's Ambitious Volcano Plan

Bukele received international attention for his aims to leverage the country's 30 volcanoes, 20 of which are potentially active, to generate geothermal energy, which can serve as a cost-effective, sustainable, and environmentally friendly power source for cryptocurrency mining (Gaubert, 2021). Bukele has instructed the state-owned geothermal electric firm, LaGeo, to develop a comprehensive plan to establish a Bitcoin mining hub that harnesses the country's 95 MW of clean, zero-emissions geothermal energy (Reuters, 2021). This initiative showcases El Salvador's commitment to both economic and environmental stability.

Geothermal energy, which comes from the heat that volcanoes produce, has several benefits as an electrical power source for cryptocurrency mining. Firstly, it is a renewable energy source, meaning it can be harnessed continuously without depleting natural resources. Secondly, geothermal energy is environmentally friendly, emitting minimal greenhouse gases and producing no direct carbon emissions. By utilizing geothermal energy, El Salvador's Bitcoin mining operations reduce their carbon footprint and contribute to a more sustainable future. The concept of mining Bitcoin with the help of volcanoes may seem unconventional, but it holds great potential for El Salvador. The Volcano Energy project, a joint venture involving the local private sector, the government of El Salvador, and key players in the crypto industry, aims to establish a 241-megawatt renewable energy park called "Volcano Energy" in the city of Metapan. This ambitious project, costing one billion dollars, is backed by an initial \$250 million investment by Tether, a prominent stablecoin provider. Their investment is mainly in volcano energy but also seeks to utilize the abundant solar and wind power within the volcanic region to create a major Bitcoin mining farm (Nagarajan, 2023).

The chosen site for the Volcano Energy Project will house a combination of solar and wind power facilities, with 169 megawatts and 72 megawatts, respectively. This setup is expected to generate over 1.3 exahash of computing power, providing the necessary infrastructure for cryptocurrency mining operations. The project aims to ensure that the Bitcoin mining facility is 100% powered by renewable energy sources, further enhancing the environmental stability and sustainability of mining operations (Nagarajan, 2023). Geothermal power plants can have some environmental consequences, such as land subsidence and the release of greenhouse gases. Implementing

strict environmental regulations and conducting thorough environmental impact assessments can help minimize these effects (Earthjustice, 2023). Ensuring a skilled workforce for geothermal energy operations is crucial. El Salvador can invest in training programs and educational initiatives to develop a skilled workforce capable of handling geothermal power plant operations and maintenance.

The World Bank has expressed that it does not support the project, citing concerns about environmental sustainability and transparency. The International Monetary Fund (IMF) has also highlighted macroeconomic, financial, and legal issues that need careful analysis. These reactions underscore the importance of establishing robust regulatory frameworks and thoroughly considering the long-term implications of Bitcoin adoption (Farzan, 2021).

The criticisms levied by the World Bank and IMF against El Salvador's adoption of Bitcoin, particularly on environmental grounds, are filled with irony when historical context is involved. Both institutions, while positioning themselves as guardians of fiscal responsibility and sustainable development, have a varied history with projects that have wreaked environmental havoc. It's particularly striking to note the numerous hydroelectric dam projects they've endorsed or funded, which have destroyed ecosystems and displaced entire communities in developing nations. Such projects, often touted as indicators of development and economic progress, have left permanent effects on the environment and the socio-culture of the regions they have been assigned to. Both organizations have scrutinized El Salvador's plans due to potential environmental concerns related to Bitcoin, while turning a blind eye to their own environmental disasters to illustrate their hypocrisy. This is grounded in a substantial body of research that has critically examined the environmental consequences of projects backed by these global financial institutions. However, this was a strategic move as El Salvador's holdings have been reduced by half from a sell-off that was later revealed in 2022 through 10 purchases Bukele announced on Twitter that are shown below (Reuters, 2022).

Date	Coin Amount	USD price	VWAP	Purchase \$	Current \$	Gain (Loss)
9-May-22	500	\$30,744.00		\$15,372,000.00	\$11,250,000.00	\$(4,122,000.00)
21-Jan-22	410	\$36,585.37		\$15,000,001.70	\$9,225,000.00	\$(5,775,001.70)
21-Dec-21	21		\$48,507.59	\$1,018,659.39	\$472,500.00	\$(546,159.39)
4-Dec-21	150	\$48,670.00		\$7,300,500.00	\$3,375,000.00	\$(3,925,500.00)
26-Nov-21	100		\$55,314.53	\$5,531,453.00	\$2,250,000.00	\$(3,281,453.00)
27-Oct-21	420		\$59,369.58	\$24,935,223.60	\$9,450,000.00	\$(15,485,223.60)
19-Sep-21	150		\$47,596.60	\$7,139,490.00	\$3,375,000.00	\$(3,764,490.00)
7-Sep-21	150		\$47,217.37	\$7,232,606.50	\$3,375,000.00	\$(3,857,606.50)
6-Sep-21	200		\$51,760.66	\$10,352,132.00	\$4,500,000.00	\$(5,852,132.00)
6-Sep-21	200		\$51,760.66	\$10,352,132.00	\$4,500,000.00	\$(5,852,132.00)
				\$104,234,197.19	\$51,772,500.00	\$(52,461,697.19)

On the other hand, by leveraging geothermal energy sources, the country aims to stimulate development and infrastructure expansion. Industrial parks near the geothermal plants can attract businesses, including Bitcoin miners, with the promise of cheap and clean renewable energy (Gans, 2021). This strategic move not only benefits the Bitcoin mining industry but also promotes overall economic growth and job creation in El

Salvador while also increasing financial inclusion for national stakeholders through the creation of more Bitcoins circulating in El Salvador.

Bukele's Tax Elimination Bill

Bukele has made a bold move by eliminating all taxes on technological innovations. He announced the Innovation and Technology Manufacturing Incentives Act on March 24, 2023, to his 5.2 million followers on Twitter, and it was approved a week later by Congress (Reuters, 2023). The bill is viewed as a step towards boosting the country's tech industry and promoting economic growth. The move comes at a time when the world is undergoing a rapid digital transformation through the introduction of AI and other digital innovations, and countries need to adapt their policies to stay coveted in the current fourth industrial revolution (El Salvador's Bill, 2023).

Bukele's technology bill aims to "eliminate all taxes (income, property, capital gains, and import tariffs) on technology innovations, such as software programming, coding, apps, and AI development, as well as computing and communications hardware manufacturing" (Bukele, 2023). This is a significant step towards creating a favorable environment for tech startups and entrepreneurs, who are the driving force behind the country's economic growth. Bukele's removal of capital gains tax on digital payments promotes financial inclusion as it can provide an incentive for local and tech-related businesses on an international scale to explore El Salvador's tax-free options. The bill also brings stability to the nation as it also provides nonprofits such as Bitcoin Beach and New Story with the ability not to pay taxes over donations through Bitcoin and will provide more economic support to the needy in the nation through these bitcoin-powered tax-free charities (Lobusova, 2022). By eliminating taxes on technology innovations, Bukele has created an environment that is conducive to the growth of the country's tech industry and makes it extremely profitable for investors. This, in turn, will attract more investment and create job opportunities for the people of El Salvador. Companies that move to El Salvador will be driven to use Bitcoin to pay salaries, as there are no capital gains or regulations for it.

"Strike", a digital payment application that uses blockchain to send and receive Bitcoin, moved its headquarters in late May 2023 to El Salvador (Bitcoinist & CryptoRank, n.d.). This decision can be attributed, at least in part, to the recent bill released by President Nayib Bukele, which allowed the company to release its Bitcoin app to 65 countries as compared to the US' lack of clarity in its regulatory crypto conditions, which made the app only available in the USA and Argentina (Emmanuel, 2023). This move is expected to significantly boost the country's tech industry, making it a more attractive destination for tech companies, and is a step towards making El Salvador a Bitcoin tech hub and promoting stability as more tech-related job opportunities are created for its citizens.

While Bukele's Tax Elimination Bill promises substantial growth for El Salvador's tech sector, it's important to consider potential challenges. The elimination of taxes might lead to significant revenue shortfalls for the government, affecting

funding for public services. This focus on the tech sector could inadvertently widen economic disparities, benefiting primarily the tech-savvy elite while other sectors feel neglected. An overreliance on technology might make the nation's economy vulnerable to industry-specific downturns. Regulatory challenges are also foreseeable with the need to ensure ethical operations and prevent monopolistic behaviors in the burgeoning tech landscape.

CONCLUSION

The adoption of Bitcoin as legal tender in El Salvador is a ground-breaking episode in the 21st century's economic history, sparking debate and interest in its impact on financial inclusion for the government and El Salvadorian users. This research aimed to answer the question, "To what extent has the adoption of Bitcoin as legal tender in El Salvador influenced financial inclusion and stability for the government and national stakeholders?" The findings and implications drawn from this study shed light on the wide-ranging effects of El Salvador's decision to embrace Bitcoin.

The research revealed that the adoption of Bitcoin has the potential to enhance financial inclusion in El Salvador. By providing an alternative means of accessing financial services, especially for the unbanked and underbanked population, Bitcoin offers a promising avenue for greater economic participation and empowerment. With the development of the "Chivo" digital wallet and the government's efforts to facilitate the use of Bitcoin in daily transactions, El Salvador has taken steps towards achieving greater financial inclusivity.

However, the research also highlighted potential limitations and challenges in the adoption of Bitcoin. The lack of comprehensive data from the government and the slow pace of updating information on Bitcoin make it difficult to have a clear and up-to-date picture of the situation. Moreover, concerns about the environmental impact of Bitcoin mining, particularly the energy-intensive nature of the process, need to be addressed to ensure the sustainability of such initiatives.

One of the major implications of this research is that the adoption of Bitcoin has significant implications for the economic, social, and political dynamics of El Salvador. The acceptance of Bitcoin as legal tender has the potential to stimulate economic growth, attract investments, and create job opportunities in the cryptocurrency industry. President Bukele's commitment to promoting Bitcoin mining with renewable energy sources like geothermal power shows the country's dedication to environmental sustainability and innovative economic strategies.

The adoption of Bitcoin as legal tender in El Salvador has both potential benefits and challenges. It offers an opportunity to enhance financial inclusion and promote economic growth, but it also requires careful consideration of environmental sustainability, regulation, and transparency. President Bukele's ambitious plans, such as the Volcano Energy Project and the elimination of taxes on technological innovations, demonstrate the government's commitment to maximizing the advantages

of Bitcoin adoption while addressing its potential limitations. Moving forward, further research is needed to evaluate the long-term impact of Bitcoin adoption on financial inclusion, economic growth, and environmental sustainability in El Salvador. Understanding the experiences of El Salvador can serve as valuable lessons for other countries considering similar moves, contributing to the growing knowledge base on the use of cryptocurrencies in the global economy. The findings from this research provide important insights into the implications of adopting Bitcoin as legal tender in El Salvador and contribute to the ongoing discussions surrounding the role of cryptocurrencies in promoting financial inclusion and stability in the 21st century economy.

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